## **Collateral Damage Estimation Course Syllabus**

October 2015



The Joint Staff Joint Targeting School 2088 Regulus Avenue Virginia Beach, VA 23461-2099

## Joint Training Course Collateral Damage Estimation Course

#### October 2015

#### **INTRODUCTION**

Joint Staff J-7 is the lead agent for this joint training course syllabus, which is authorized for issue by the Joint Targeting School. This syllabus is directive in nature and prescribes the overall training strategy and amount of instruction required for a student with the entry prerequisites to attain course goals and graduate. Units tasked to implement this syllabus will ensure each student graduated possesses the knowledge, skills and proficiencies set forth in the course training standards. Within the syllabus and other directive constraints, the amount and level of training devoted to mission elements, events, subjects or phases should be adjusted as required to meet individual student needs. Instructions governing publication and revision of this syllabus are contained in *CJCSM 3500.03D*, *Joint Training Manual for the Armed Forces of the United States*. This syllabus does not take precedence over applicable governing directives.

Derek C. Oakley Lt Col, USAF

JTS Director

## Chapter 1 Course Description

1. Title: Collateral Damage Estimation Course

2. Course Joint Certification Date: 07 February 2014

3. Certification Expiration Date: 07 February 2017

4. Course Identifiers

a. Joint "S" Code: \$366b. USA CIN: 303JT\$005

c. USAF CIN: X5OZN14N3 0Z1A

d. USMC CIN: N46F333e. USN CIN: S-3A4905f. FMS MASL: P122091

5. Objective: Provide CDE certification training for personnel assigned to a position or billet performing CDE.<sup>1</sup>

6. Location: 2088 Regulus Avenue, Virginia Beach, VA 23461-2099.

7. Duration: 5 Training Days.

8. Entry Prerequisites: Read CJCSI 3160.01A.

**9. Status Upon Graduation:** Graduates are awarded 1.0 Joint Qualification Officer Points, are certified as CDE analysts, and receive Certificates of Completion.

10. Academic Training		hours
a.	Course Prerequisite Training	2.0
b.	JTS Instruction (lecture)	18.5
c.	Practical exercises	8.5
d.	Out-of-class reading	2.0
e.	Guest Lectures/Facility Tours	0.0
f.	Academic evaluation	3.5
To	tal Approximate Course Hours	34.5

<sup>1</sup> Chairman of the Joint Chiefs of Staff, CJCSI 3160.01A, No-Strike and Collateral Damage Estimation Methodology (12 Oct 2012), A-2.

## Chapter 2 Course Administration

#### **Section A - Syllabus Management**

- 1. Syllabus Interpretation: This syllabus is directive and must be followed as written.
- **2. Syllabus Waiver:** All syllabus waivers must be approved by the JTS Director. In all instances JTS will strive to maintain course content while not extending training past the scheduled training dates.
- **3. Syllabus Review**: JTS conducts syllabus reviews on an annual basis or as directed by the JTS Director. Following syllabus review, the JTS Director approves any syllabus modification. At all times the CDE syllabus will comply with the Joint Collateral Damage Estimation Program Standards (JCPS) outlined in CJCSI 3160.01A.

#### 4. Syllabus Content.

- a. Updates: Course managers approve all lesson updates prior to course presentation.
- **b. Modification**: The JTS Director approves all syllabus modifications and lesson additions prior to course inclusion.
- c. **Frequency of Review:** JTS reviews syllabus content on an annual basis. JTS executes additional content review when lesson references are updated.

#### **Section B - Training Management**

1. Course Manager Responsibilities: The JTS Director designates course managers. The course manager is responsible for monitoring the content of the assigned course. Prior to course start, the course manager approves the course schedule and flow of events.

#### 2. Instructor Responsibilities.

- **a. Lecture:** Instruction will not exceed 60 minutes without a scheduled break. Individual classes may decide to extend instruction past 60 minutes without a break.
- **b. Practical Exercises:** JTS instructors will be available during practical exercise work. At all times JTS will strive to maintain a student to instructor ratio of no more than 15 to 1. Students are expected to complete all required practical exercises prior to course examination.
- **3. Course Standards:** In order to be certified as a CDE analyst, students must complete the academic and practical portions of this syllabus, and pass a comprehensive evaluation based on the JTS-maintained master question file with a minimum score of 80 percent. Students are expected to attend all blocks of instruction.
- **4. Training Capacity:** JTS course capacity is 30 seats and will not exceed these numbers. During the first day of training if a student fails to arrive at the course JTS will open the seat to the standby list. Student quotas are managed based upon service and combatant command needs.
- **5. Training Materials:** The following is a list of materials needed to accomplish the CDE course outlined by this syllabus.
  - a. Academic lectures
  - b. Practical exercises
  - c. Casualty estimation worksheet
  - d. CJCSI 3160.01 (series) No-Strike and Collateral Damage Estimation Methodology
  - e. Collateral Effects Radii (CER) Reference Tables
  - f. Digital Precision Strike Suite Collateral Damage Estimation (DCIDE) Software with supporting imagery
  - g. Exam Part 1
  - h. Exam Part 2

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<sup>&</sup>lt;sup>2</sup> Ibid., D-G-1.

#### 6. Unsatisfactory Performance

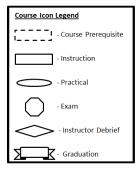
- **a. Exam Failure:** Students will not be offered a retest. If failure occurs a student must re-accomplish the CDE syllabus prior to remediation. This action is normally accomplished by rescheduling the student for a follow-on CDE course.
- b. Unexcused Absences: 2 unexcused absences will result in removal from the course.
- **c. Security Violation**: All Security violations will be dealt with on an individual basis and may result in removal from the course.
- **d. Dismissal from Course:** In the case of a student's dismissal from the course for not achieving the academic and overall performance standards, the student's commanding officer at his or her present command will be notified through formal correspondence. The student will not receive a certificate of completion and JTS will not award the individual Joint Qualification Officer Points nor count the course completed for the Course Identification Number of the respective services.

# Chapter 3 Course Flow

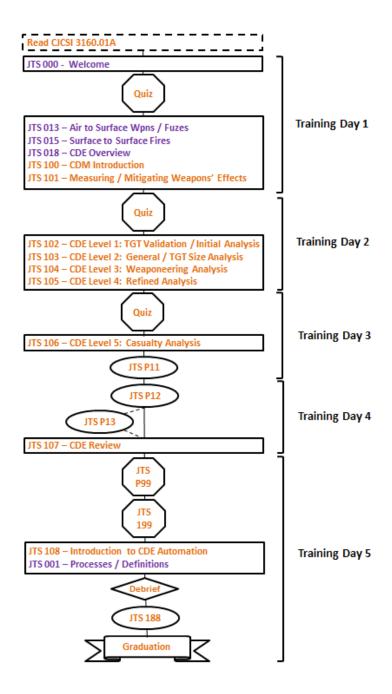
## Section A – Course legends

Course Language Legend
Staff: Purple
CDE: Orange
APPS: Green
BDA: Blue

0xx: Staff Course Academics
1xx: CDE Course Academics
2xx: APPs Course Academics
3xx: BDA Course Academics
9x0: Staff PE
P1x: CDE PE
P2x: APPs PE
P3x: BDA PE
x99: Course Exam (Ex. 099=Staff)
X88: Course Critique (ex. 188=CDE)



Section B – Course Map



Chapter 4
Lesson Descriptions

<u>Lesson ID</u>	<u>Lesson Name</u>	<u>Duration</u>
JTS 000	Welcome	1.0

*Objectives:* Introduce JTS instructors and outline course expectations. Identify a class leader and facilitate student introductions.

*Objectives:* Students will be able to define specific targeting terminology and summarize the joint targeting process and service component targeting processes.

### JTS 013 Air-to-Surface Weapons and Fuzes

1.0

*Objectives:* Students will be able to identify proper warhead, weapon, and fuze terminology. Students will have a basic understanding of the various air to surface weapons available for targeting.

#### JTS 015 Surface-to-Surface Fires

1.0

*Objectives:* Students will be able to identify current capabilities and limitations of the surface-to-surface assets available to an operational-level planner/targeteer.

#### JTS 018 Collateral Damage Estimation (CDE) Overview

1.5

*Objectives:* Students will be able to explain the use of the Collateral Damage Estimation (CDE) methodology for all target types while employing any conventional weapon. Students will be able to explain how the CDE methodology accurately estimates associated risks, restrictions, and techniques required for a final CDE Analysis Evaluation.

#### JTS 100 Collateral Damage Estimation (CDE) Methodology Introduction

1.0

*Objectives:* Students will be able to identify terminology associated with and reasoning behind the need for a collateral Damage methodology.

#### JTS 101 Measuring and Mitigating Weapons Effects

1.0

*Objectives:* Students will be able to describe the characteristics of weapons effects for a given situation within the CDE framework utilizing technical facts.

### JTS 102 Target Validation and Initial Analysis

1.0

*Objectives:* Students will be able to describe the technical basis of CDE level 1 using Technical Facts, Collateral Effects Radii (CER) reference tables, and the CDE process flow.

## JTS 103 General and Minimum Target Size Analysis

1.0

*Objectives:* Students will be able to describe the technical basis of CDE level 2 using Technical Facts, Collateral Effects Radii (CER)/Minimum Target Size (MTS) reference tables, and the CDE process flow.

## JTS 104 Weaponeering Analysis

1.5

*Objectives:* Students will be able to describe the technical basis of CDE level 3 using Technical Facts, Collateral Effects Radii (CER) reference tables, and the CDE process flow.

#### JTS 105 Refined Analysis

2.0

*Objectives:* Students will be able to describe the technical basis of CDE level 4 using Technical Facts, Collateral Effects Radii (CER) reference tables, and the CDE process flow.

### JTS 106 Casualty Analysis

3.0

*Objectives:* Students will be able to describe the technical basis of CDE level 5 using Technical Facts, Collateral Effects Radii (CER) reference tables, and the CDE process flow.

#### JTS 107 CDE Review

1.5

*Objectives:* Students will be able to explain the use of CDE for all target types while employing any conventional weapon and accurately estimate associated risks, restrictions, and techniques required for a final CDE analysis evaluation.

#### JTS 108 Introduction to CDE Automation

1.0

*Objectives:* Students will be familiar with the CDE tool Digital Precision Strike Suite Collateral Damage Estimation (DCIDE)

# Chapter 5 Practical Exercise Descriptions

#### Lesson ID Lesson Name

**Duration** 

## JTS P11 CDE Practical Exercises A through J

4.5

Objectives: Develop proficiency in CDE analysis.

#### JTS P12 CDE Practical Exercises K through Q

2.0

Objectives: Develop proficiency in CDE analysis.

## JTS P13 CDE Practical Exercises R through X

2.0

Objectives: Develop proficiency in CDE analysis.

# Chapter 6 Student Evaluations

Event ID	<u>Name</u>	<b>Duration</b>
	Quiz	.25
Objectives: Students will demonstrate understanding of previous day instructional concepts		
JTS P99	CDE Practical Examination (Certification Part 1)	1.5
Objectives Students will demonstrate proficiency in CDF		

Objectives: Students will demonstrate proficiency in CDE

Objectives: Students will demonstrate knowledge of the CDM

## Chapter 7 Course References

- 1. Section A: Joint Publications
  - a. Access: <a href="https://jdeis.js.mil/jdeis/index.jsp?pindex=2">https://jdeis.js.mil/jdeis/index.jsp?pindex=2</a>
  - b. Reference

JP 3-60, Joint Targeting

- 2. Section B: Chairman of the Joint Chiefs of Staff Directives
  - a. Access: <a href="https://ca.dtic.mil/cjcs directives/index.htm">https://ca.dtic.mil/cjcs directives/index.htm</a>
  - b. Reference

CJCSI 3160.01(series), No-Strike and Collateral Damage Estimation Methodology

3. Section D: Others

### a. Reference

Collateral Effects Radii (CER) Reference Tables
Digital Precision Strike Suite Collateral Damage Estimation (DCIDE) Software
JMEM/AS Weaponeering Guide
JMEM Weaponeering Software
Memorandum of Agreement for JTS (Draft)